



# Illinois Department of Transportation

## Memorandum

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STUDY PLANS	
APR 28 2004	
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To: Tom Sancken  
From: Kenneth R. Lang *KL* By: Terry McCleary  
Subject: Pavement Cores\*  
Date: April 27, 2004

\* I-80 from Ottawa to Seneca

Seventeen cores were taken on the above section of Interstate 80. Below are the core descriptions and our recommendations for future improvements.

- Core #1 EBDL MP 94.2  
2 7/8" Bituminous Surface Course in Good Condition  
2" Bituminous Binder Course in Good Condition  
No Bond  
9" PCC in Poor Condition  
IBV=4.7
- Core #2 EBDL MP 95.2  
3 1/8" Bituminous Surface Course in Good Condition  
2" Bituminous Binder Course in Good Condition  
No Bond  
9 1/4" PCC in Good Condition  
IBV=3.6
- Core #3A EBDL MP 96.1  
1 1/2" Bituminous Surface Course in Poor Condition, Stripping  
No Bond  
11 1/2" PCC in Good Condition – Patch
- Core #3B EBDL MP 96.1  
13" PCC in Poor Condition – Top of core broke up  
IBV=4.5
- Core #4 EBDL MP 98.3  
2 1/4" Bituminous Surface Course in Good Condition  
2 1/4" Bituminous Binder Course in Good Condition  
10 1/4" PCC in Poor Condition – Broken in two pieces at 6" down.  
IBV=4.2

Core #5	EBDL MP 98.6 3 ¼" Bituminous Surface Course in Good Condition 1 ¼" Bituminous Binder Course in Good Condition No Bond 9½" PCC in Good Condition IBV=4.0
Core #6	EBDL MP 99.6 2 ½" Bituminous Surface Course in Good Condition 11" PCC in Good Condition – Patch IBV=4.2
Core #7	EBDL MP 100.6 2 ¾" Bituminous Surface Course in Poor Condition 11 ½" PCC in Poor Condition IBV=2.9
Core #8	EBDL MP 101 2" Bituminous Surface Course in Good Condition 13 ¼" PCC in Good Condition – Patch IBV=9.0
Core #9	EBDL MP 102 3 ½" Bituminous Surface Course in Good Condition 1 ½" Bituminous Binder Course in Good Condition 10 ¼" PCC in Good Condition IBV=8.0
Core #10	EBDL MP 103 2 ¼" Bituminous Surface Course in Good Condition 2 ¼" Bituminous Binder Course in Good Condition 10 ¼" PCC in Poor Condition – Badly cracked IBV=11.0
Core #11	EBDL MP 104.4 4 ½" Bituminous Surface Course in Good Condition ¼" Bituminous Sand Mix in Fair Condition ? PCC in Poor Condition – Retrieved in many pieces IBV=4.6
Core #12	WBDL MP 102.5 3 ½" Bituminous Surface Course in Good Condition 1 ½" Bituminous Binder Course in Good Condition No Bond 10" PCC in Poor Condition – Broken in two pieces at 9" down. IBV=3.7

- Core #13    WBDL MP 101.5  
3 1/2"    Bituminous Surface Course in Fair Condition  
1 3/4"    Bituminous Binder Course in Fair Condition  
No Bond  
10"    PCC in Good Condition  
IBV =10.5
- Core #14    WBDL MP 99  
3 1/4"    Bituminous Surface Course in Good Condition  
1 1/2"    Bituminous Binder Course in Good Condition  
10"    PCC in Good Condition  
IBV=7.0
- Core #15    WBDL East of Marseilles off ramp near MP 97  
2 1/2"    Bituminous Surface Course in Good Condition  
1 1/2"    Bituminous Binder Course in Good Condition  
10"    PCC in Good Condition  
IBV=3.5
- Core #16    WBDL MP 96.2  
1 1/2"    Bituminous Surface Course in Very Poor Condition  
10"    PCC in Good Condition
- Core #17    WBDL MP 95.4  
?"    Bituminous Surface Course in Very Poor Condition  
11"    PCC in Poor Condition – Badly cracked patch

Over 50% of the eastbound pavement cores show the concrete to be in poor condition, while only 1/3 of the cores in the westbound driving lane show this. Overall, 35% of the pavement cores show the concrete pavement to be in poor condition.

While the above numbers are not good, they still don't show how poor the pavement is. Three out of the seventeen cores were taken in old patches. The pavement, in general, has been patched heavily. A core can show the distress within the concrete pavement but cannot show whether or not a patch is rocking, and this is happening in several locations.

Based on the condition of the pavement cores and the amount of patching this pavement has undergone, we recommend this pavement be considered for reconstruction.

Tom Sancken  
April 27, 2004  
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The immediate bearing value (IBV) for each core location was determined with the dynamic cone penetrometer (DCP). Some of these values would suggest the subgrade is good enough to warrant further investigation into rubblization.



# I-80 from IL 71 to Seneca Interchange





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# I-80 from IL 71 to Seneca Interchange



# I-80 MP 96.1 EBDL Core 3A





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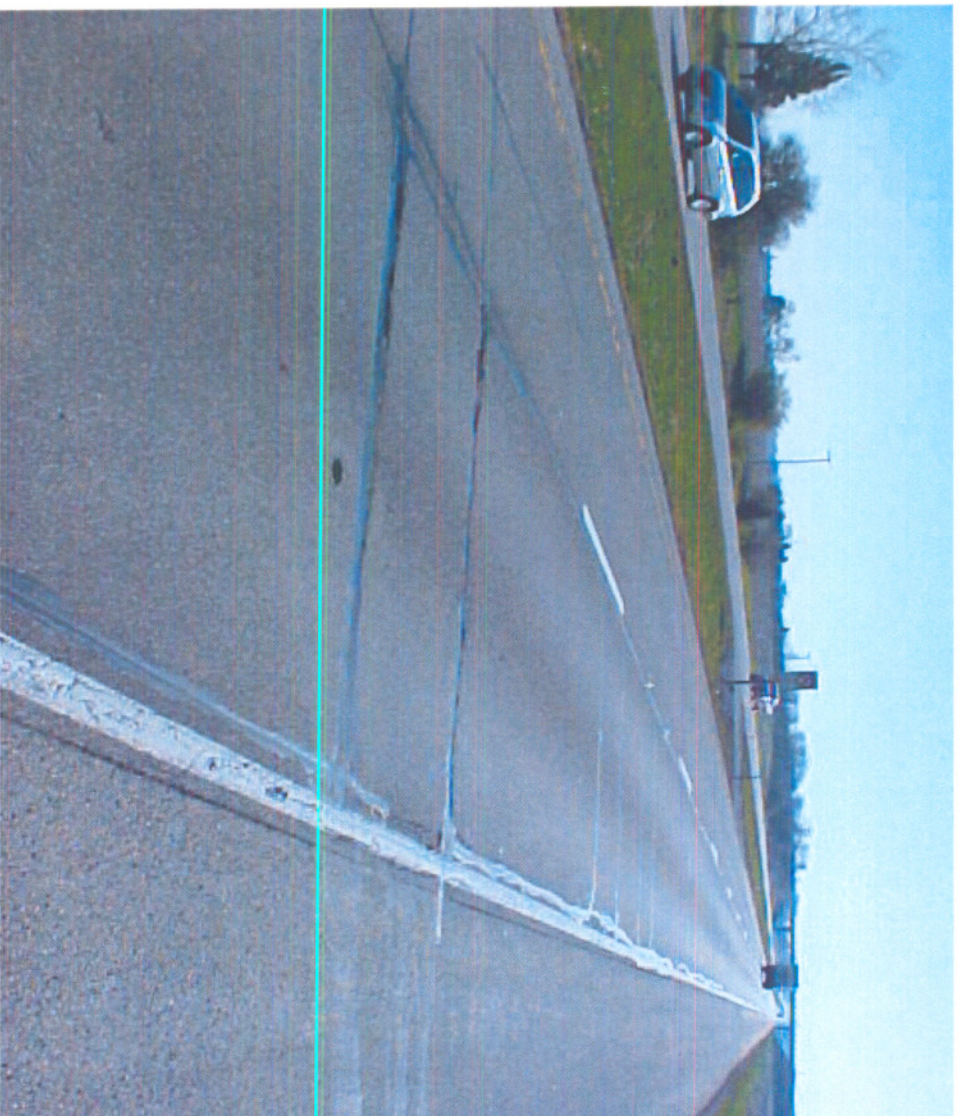


# I-80 MP 96.3 EBDL





# I-80 MP 98.3 EBDL Core 4



# I-80 MP 103 EBDL Core 10

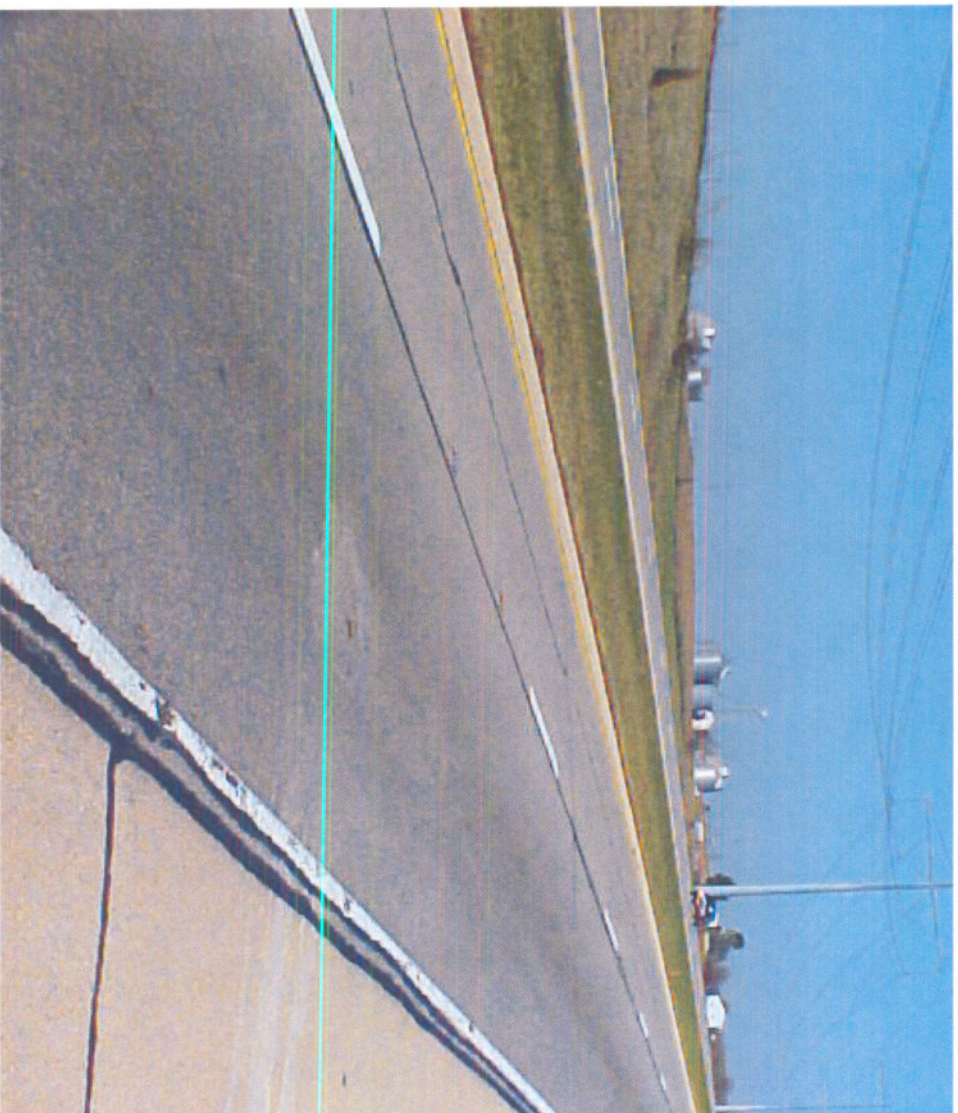




# I-80 MP 104.4 EBDL Core 11



# I-80 MP 102.5 WBDL Core 12





# I-80 MP 96.2 WBDL Core 16



# I-80 MP 95.4 WBDL Core 17

